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ABSTRACT

The notion that life stresses and personality have an interactive role in illness is part of the wisdom of the ages. Most past research has studied either life stresses or personality. A model for understanding health/illness status is presented that includes stressful life events and the resistance resources of personality, social supports, coping, constitutional strengths and health practices. Emphasized as a resistance resource is the hardy personality type, which is comprised of the dispositions of commitment (the tendency to be involved rather than alienated), control (the tendency to be influential rather than powerless), and challenge (the tendency to view change as a normal impetus to growth rather than a threat). Recommendations are made concerning the measurement of stressful life events, and the prospective treatment of longitudinal data. (Author)

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PERSONALITY AS A RESOURCE IN STRESS RESISTANCE:
The Hardy Type

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Personality as a Resource in Stress Resistance: The Hardy Type[1]

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The notion that life stresses and personality have an interactive role in illness is quite old--old enough to constitute the wisdom of the ages. There is little in existing research to disconfirm this notion. Most past research has studied only life stresses or only personality, and both emerge as somehow important. This hardly constitutes a great leap forward in knowledge over what conventional wisdom dictates. Currently, we are at the beginning of a wave of enthusiasm for research in which the effects on illness of both life stresses and personality are studied on the same subjects. Our fondest hope for such research should be that it will improve upon conventional wisdom through greater precision of conceptualization and of empirical test.

A Stress and Personality Model of Illness

I suggest that the way to greater conceptual precision can be discerned in some work of members of this symposium (Kobasa, 1979; Lefcourt, 1980) and others (Antonovsky, 1979; Lazarus, 1966; White, 1974). As shown in Figure One, the elements of a relevant model constitute, as independent variables,

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Figure One goes about here

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stressful life events, constitutional status, coping techniques, social supports, health practices, and personality, and, as the dependent variable, illness.

Stressful life events are assumed to have a debilitating effect through producing prolonged activation states. But how stressful life must become before actual illness symptoms occur is in part a function of constitutional status. The stronger the organism's various systems, the greater the activation and, therefore, life stresses that can be tolerated without damage. Health practices, such as moderation in eating and regular exercise, presumably protect health through their effect on the organism rather than life events. Health practices can maintain constitutional strengths or even minimize weaknesses, and thereby permit toleration of stressful life events.

The model also assumes that coping techniques can not only decrease but also fail to alter or even increase the stressfulness of life events. Decreases in stressfulness are produced by transformational coping, whereas avoidance coping either fails to alter or increases stressfulness. Transformational coping involves the person in active interaction with the life events such that cognitive appraisal is optimistic and decisive action alters the events to make them less stressful. In contrast, avoidance coping involves passive removal from the life events, such that they are appraised pessimistically and distracting actions are engaged in. For example, take the stressful event of losing your job. Transformational coping might involve the optimistic appraisal that you accepted the risk when you went into a bureaucratic organization even though you have entrepreneurial leanings, and the decisive actions of interviewing those who fired you with

a view toward reassessing whether that kind of work or some new career best suits your capabilities. In contrast, avoidance coping might involve the pessimistic appraisal that the job you lost is irreplacable and you are unworthy, and the distracting actions of seeking reassurance, drinking heavily, and starting an affair.

Social supports have their primary health protecting effects through their influence on coping reactions to the life events themselves. If you have such social supports as a dense interpersonal network or considerable status and centrality, you are probably more likely to engage in transformational rather than avoidance coping. Further discussion of health practices and social supports is definitely needed, but would take us too far afield.

Today, our focus in resistance resources is to be upon personality. There appears some agreement that personality, like social supports, has its major effect on health and illness through its influence on coping.

Personality as a resistance resource

In conceptualizing personality as a resistance resource, what is badly needed as a first step is a clear, precise rendition of the personality dispositions presumed to influence coping efforts in a transformational or avoidance direction. This is a modest but crucial first step. Later steps that are not as crucial but would be useful are (1) organizing the personality dispositions into types or styles of life, (2) specifying the developmental factors leading to the dispositions and types, and (3) embedding all this theorizing in a set of assumptions concerning human nature.

Most current theorizing about personality as a factor in illness does not achieve even the modest first step just mentioned. One common difficulty

is the seductive pitfall of metaphorical thinking. A striking example of this can be found in Bahnson's (1979) recent contention that cells grow cancerous and destroy themselves by their "uncontrolled egoistic development" which violates the adaptations necessary for the "socialization" of the cell. The cell is regarded as regressing to behavior characteristic of archaic unicellular organisms. Only in the most metaphorical sense can cells be regarded as egoistic, regressive and failing in socialization. These characteristics can only be properly attibuted to entire human beings and their relationships to social systems. As a stimulus to imagination, metaphor is fine. But it is not precise enough to be serious theorizing. Very likely this poeticism in theoretical clothing is an important reason why the psychosomatic formulations of earlier years are not credible to us today.

Another common difficulty in current theorizing about personality as a factor in illness concerns that old lack, insufficient operationalization. Although personality dispositions and types are often mentioned in this kind of theorizing, it is never very clear concretely what is being measured and how this has been accomplished. Consequently, the research upon which such theorizing is based appears ambiguous, unrepeatable, and excessively interpretive. A notable example of this problem appears in the work of Engel (1968) and Schmale (1972) who talk about the "giving-up, giving-in" syndrome as characteristic of females who develop cervical cancer. The critical aspect of this complex appears to be a sense of helplessness and hopelessness, but there are so many different, imperfectly overlapping discussions, and so much emphasis upon unstructured interviews, retrospective designs and impressionistic renditions of data, that all seems irretrievably arbitrary.

A similar problem attends the work of Hinkle (1958), who characterizes the personalities of persons remaining healthy as "sociopathic." So loose is the theorizing, operationalization and data treatment that one suspects the research served as no more than a vehicle for expression of pre-existing biases.

Fortunately, there is a more promising trend these days, which may soon bring us to solid achievement of that first and crucial theoretical step. Several psychologists seem engaged similarly in this trend, again a fortunate sign. The most comprehensive of these positions is that of Kobasa (1979), who specifies commitment (vs. alienation), control (vs. powerlessness) and challenge (vs. threat) as the personality dispositions of the hardy type. Hardiness is considered to keep a person healthy despite the experience of stressful life events, and the results of a careful retrospective study of business executives supports this prediction.

Commitment is described as the tendency to involve oneself in whatever one is doing, whether it appears positive or negative, rather than disengaging. Control involves the tendency to believe that and act as if one can influence the course of events, rather than being the passive victim of circumstances. Challenge involves the related expectations that it is normal for life to change, and that changes will stimulate personal growth. Although one suspects that Kobasa's (1979) operationalizations of these three "C"s using questionnaire scales does not fully exhaust the denotations of the concepts, at least it is clear how and why the measurement was done.

Also, the implications of this position concerning coping are now being elaborated (e.g., Kobasa & Maddi, 1980). Committed persons tend to explore

and be curious about what happens to them (Maddi, Hoover, & Kobasa, 1980). Through a sense of control, one attempts to incorporate or alter events. And challenge contributes excitement about change and reflection upon what can be learned through it. All three "C"s provide ample impetus for the optimistic cognitive appraisal and decisive action marking transformational coping.

Other investigators are embarked on a similar enterprise. The internal vs. external locus of control concept seems a favorite, considered as a resistance resource by Johnson and Sarason (1978) and Lefcourt (1980). Johnson and Sarason (1978) also emphasize sensation-seeking, which seems similar to challenge. And it perhaps goes without saying that I have joined forces with Kobasa, who is now a colleague at The University of Chicago. There is undoubtedly work going on right now of which I am not aware. But it does seem as if the work involving the three "C"s in one conceptual form or another is an important thrust toward theoretical precision of the sort that could improve upon conventional wisdom.

Research Considerations

But there is little real chance that conventional wisdom will indeed be enhanced unless research also achieves precision enough to improve upon everyday observation. Among the many matters that merit attention, I have time to focus on only two that seem especially important currently.

The measurement of life stresses

At the moment, there is much heat and misunderstanding surrounding the measurement of life stresses. Holmes' and Rahe's (1967) hitherto popular Schedule of Life Events is being assaulted as unfit. I have no quarrel with the part of this assault that focusses upon ambiguous items and the need to tailor item content to sample employed. Nor have I quarrel with the thought

that some sorts of events (e.g., negative or uncontrollable ones) are debilitating whereas others (e.g., positive or controllable ones) are not. What does trouble me is the part of the assault which insists that the stressfulness of events is best measured by the subject's subjective report. After all, this assault goes, the subject is the one who experienced the events, and his or her reactions determined the level of stress that transpired. Clearly this subjectivistic approach is not new, dating in psychosomatic research to at least the work of Adolph Meyer and his life charts. It was, indeed, the accepted approach when Holmes and Rahe introduced what was generally regarded as a methodological advance toward objectivity.

It seems to me that the two approaches get at different things, and which is the more appropriate needs to be considered carefully. When Holmes and Rahe got large, representative samples of subjects to rate the stressfulness of events against a standard, and assigned the means of these ratings as stressfulness weights, they were getting at the cultural level of analysis. By virtue of the shared patterns of meaning forming our culture, and to which we are socialized, events have a certain degree of stressfulness by comparison with each other. If your mother has died, that is stressful culturally whether or not you experience it subjectively as traumatic. And the effect of the death on you would be reinforced by the reactions of those other members of your culture you interact with in connection with the event. Your subjective experience of stress over the death may also be an interesting fact, but it is not any more basic than the culturally-determined experience. Looked at the other way, it is apparent that subjective stress scores cannot be sufficient by themselves. A person may contend that an

event, say divorce, is not stressful because it was wished for. But, culturally speaking, divorce is an upheaval, and the person may be denying this stressfulness in his or her insistence on being better off. This stressfulness may have an organismic effect anyway, resulting in hypertension or ulcer.

Clearly, cultural stress scores (of the sort used by Holmes and Rahe) should not be dispensed with. But they are not enough. Perhaps they should be supplemented by subjective stress scores, so that both may be used in combination in determining the effect upon illness symptoms. Although this is a plausible procedure, subjective stress scores are actually quite vulnerable conceptually. Dohrenwend and associates (Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978) argue cogently that subjective stress scores are undesirable because they merge personality, early experience and coping variables into one ambiguous conglomerate. To use subjective stress scores in lieu of measuring these various factors is an oversimplification in the sense that it gives one the impression that there is only one variable rather than several to be dealt with conceptually.

Things get worse when subjective stress scores are used as the only measure of stressfulness of events in a study that also includes a personality measure. This is a serious confounding, as personality would seem to have an effect on cognitive appraisal, and cognitive appraisal is the stuff of subjective stress judgements. Johnson and Sarason (1978) fell prey to this confounding, when they measured stress subjectively and used internal vs. external locus of control as a personality measure. I ask you, "Is it surprising that persons who believe that they are the victim of circumstance (external locus of control) experience events subjectively as stressful or beyond their control?" Probably, the two scores are really measures of the same thing.

For all these reasons, it seems best to persist in measuring stressfulness of events culturally. Then we can include measures of personality variables, coping techniques, social supports and early experience as ways of determining the effect of resistance resources available to individuals in the encounter with culturally stressful events.

The matter of prospective studies

It is no secret that the overwhelming majority of relevant studies have been retrospective in design. Usually, the subjects are already ill when information about stressful life events is collected (e.g., Holmes & Masuda, 1974). Sometimes, information about personality is collected just after or at the same time as data on life events and illness symptoms (e.g., Johnson & Sarason, 1979; Kobasa, 1979). In these cases, the design does not facilitate causal inferences concerning stressful events and personality on illness. There is a desparate need for effective prospective studies lest we all go off making conclusions that precise empirical testing will not warrant.

Certainly there must be a time lag in the design, and it is best if measures of both independent and dependent variables are repeated at regular intervals. Such longitudinal studies are inherently time consuming and difficult to accomplish. Nor should we succumb to the temptation to do quick and dirty studies employing college students in our classes measured twice over a three-week period. Although I admit that we do not have good theories of the amount of time it takes for stressful events to influence symptoms, this is all the more reason why we should use a significant period of time with repeated measurements. But a longitudinal design does not solve the problem of prospectivity completely. Employed

without the benefit of experimental control, measures in field studies are subject to the influence of many extraneous variables. Thus, statistical procedures of control are important for cogent causal inferences.

A recently introduced technique that seemed useful is the method of cross-lagged correlation (Kenny, 1975). But after a period of rising popularity, it is now receiving serious criticism (e.g., Rogosa, 1979) due to shortcoming produced by its assumptions and procedures which make it almost impossible to be sure that one has identified accurately the direction of causality in longitudinal panel data. After exhaustive dissection of the technique, Rogosa (1979) concludes that it is a dead end.

This leaves us with path analysis done in the context of regression techniques, and analysis of covariance. Both approaches can permit test of causal hypothesis by statistically controlling for the effects of other potentially influential variables. Although both techniques have their detractors, they seem less vulnerable to criticism than is cross-lagged correlation, and can help in the ongoing attempt to infer causality from longitudinal data.

Concluding Remarks: A Study of Executives

Let me conclude by presenting briefly the longitudinal study of executives being done by Kobasa and me as an example of research fulfilling the various recommendations made to this point. This will also give us an opportunity to share our recent results with you.

At Time One, a representatively selected sample of executives of an Illinois utility company completed questionnaires measuring (1) recent stressful life events, (2) recent illness symptoms, (3) the personality dispositions of commitment, control and challenge, and (4) various other

considerations too numerous to mention here. Testing Times Two and Three occurred at one-year intervals and involved repeating the questionnaires for recent stressful life events and recent illness symptoms. The number of subjects participating in all three testings was 259. The sample ranged in age from 29 to 65, but was exclusively male and quite homogeneous in demographic characteristics such as socioeconomic status, religion, and marital status.

As recommended, the measure of recent stressful life events was cultural rather than subjective. For this purpose, we employed a version of the Holmes and Rahe instrument modified to decrease item ambiguity and increase item relevance for our sample. For measuring personality, we selected the two scales for each disposition that emerged from Kobasa's (1979) retrospective study as the most effective discriminators. All six scales have adequate reliability and validity, in addition to being theoretically relevant. The pattern of positive intercorrelations obtained justified combining the personality scores into a composite indicator of hardiness. For measuring illness symptoms, we used a version of the well known Serious of Illness Rating Scale (Wyler, Masuda, & Holmes, 1968), modified for relevance to our sample.

This study hypothesized (1) that culturally stressful events tend to increase illness symptoms, (2) that hardiness of personality tends to protect against illness symptoms, and (3) that there is an interaction such that the debilitating effects of stressful events are most apparent when hardiness is low. For purposes of testing these hypotheses, we used analysis of covariance (as recommended earlier), with illness symptoms at Times Two and Three combined as the dependent variable. The independent variables were cultural stressfulness of events and hardiness, both from Time One. Illness symptoms

at Time One was the covariate, insuring that whatever results were obtained would clearly concern illness change from Time One to Times Two and Three. Preparatory analyses also ruled out any predictive role for the demographic characteristics mentioned earlier. Through the use of a covariate and these preparatory analyses, some statistical control over potentially effective variables other than those hypothesized was achieved.

The results of the analysis of covariance are summarized in Table 1. As

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Table One goes about here

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you can see, the covariate has a significant effect on the dependent variable. This is not surprising, as prior illness seems a logical basis for predicting present illness. But, above and beyond this, both independent variables show main effects which support the hypotheses. So does the significant interaction support the hypotheses. Both main effects and interaction appear interpretable, so we are justified in concluding that the occurrence of culturally stressful events puts persons at risk of illness, but that the presence in them of a hardy personality type is an effective resistance resource.

This study shows empirical signs of possibly improving upon conventional wisdom. Needless to say, however, there are many unresolved matters. Even with our longitudinal design and attempts at statistical control, we are a long way off the precision of an experiment. But we do not know enough yet in this area to perform an effective and meaningful experiment. For the present, we should persist in efforts to increase the rigor of field studies. Let me end by mentioning two matters worth pursuing. At the moment, there is

little direct evidence bearing on the assumption that hardiness has its protective effect primarily through increasing transformational coping. We are in process of studying this link now. Also, the self-report measures of symptomatology typically used in these studies, including our own, are vulnerable to interpretation as "illness behavior" rather than "illness," whatever that distinction means. It would be useful, therefore, to supplement self-report with physiological indications of bodily functioning. We are currently exploring this avenue too.

Footnotes

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2. My gratitude to Suzanne C. Kobasa, Sheila Courington, Steven Kahn, James Marooney, Mark Puccetti, and Caren Gotlieb who helped in various ways.

References

Antonovsky, A. Health, stress and coping. San Francisco: Jossey-Bass, 1979.

Bahnson, C. B. An historical family systems approach to coronary heart disease and cancer. In K. E. Schaefer, V. Slave & W. Blankenburg (Eds.), A new image of man in medicine (Vol. 3). Mount Kisko, NY: Futura Publishing Co., 1979.

Dohrenwend, B. S., Krasnoff, L., Askenasy, A. R., & Dohrenwend, B. P. Exemplification of a method for scaling life events: The PERI Life-Events Scale. Journal of Health and Social Behavior, 1978, 19, 205-229.

Engel, G. A life setting conducive to illness--the giving up-giving in complex. Bulletin of the Menninger Clinic, 1968, 32, 355-365.

Hinkle, L. E. & Wolfe, H. G. Ecologic investigations of the relation between illness, life experiences and the good environment. Annals of Internal Medicine, 1958, 49, 1373-1388.

Holmes, T. H. & Masuda, M. Life change and illness susceptibility. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), Stressful life events: Their nature and effects. New York: Wiley, 1974.

Holmes, T. H. & Rahe, R. H. The Social Readjustment Rating Scale. Journal of Psychosomatic Research, 1967, 11, 213-218.

Johnson, J. H. & Sarason, I. G. Life stress, depression, and anxiety: Internal-external control as a moderator variable. Journal of Psychosomatic Research, 1978, 22, 205-208.

Kenny, D. A. Cross-lagged panel correlation: A test for spuriousness. Psychological Bulletin, 1975, 82, 887-903.

Kobasa, S. C. Stressful life events, personality, and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 1979, 37, 1-11.

Kobasa, S. C. & Maddi, S. R. Hardiness and health. Unpublished manuscript, 1980.

Lazarus, R. S. Psychological stress and the coping process. New York: McGraw-Hill, 1966.

Lefcourt, H. Locus of control and coping with life events. In E. Staub (Ed.), Personality: Basic issues and current research. New Jersey: Prentice-Hall, 1980.

Maddi, S. R., Hoover, M., & Kobasa, S. C. Alienation and exploratory behavior. Unpublished manuscript, 1980.

Rogosa, D. R. Causal models in longitudinal research: Rationale, formulation, and interpretation. In J. R. Nesselroade & P. B. Baltes (Eds.), Longitudinal research in human development: Design and analysis. New York: Academic Press, 1979.

Schmale, A. H. Giving up as a final common pathway to change in health. Advances in Psychosomatic Medicine, 1972, 8, 20-40.

White, R. W. Strategies of adaptation: An attempt at systematic description. In G. Coehlo, D. A. Hamburg, & J. E. Adams (Eds.), Coping and adaptation. New York: Basic Books, 1974.

Wyler, A. R., Masuda, M., & Holmes, T. H. Seriousness of Illness Rating Scale. Journal of Psychosomatic Research, 1968, 11, 363-375.

Table 1

Analysis of Covariance on Illness Using Prospective Estimates of Hardiness and Stressful Life Events with Prior Illness as a Covariate

Classification	Mean	N	F	d.f.	p
High Stressful Life Events					
Low Hardiness	1079.82	68			
High Hardiness	510.05	62			
Low Stressful Life Events					
Low Hardiness	538.64	61			
High Hardiness	403.16	68			
Covariate: Prior Illness			62.36	1	.001
Main Effect: Stressful Life Events			13.88	1	.001
Main Effect: Hardiness			6.13	1	.01
Interaction			7.37	1	.007

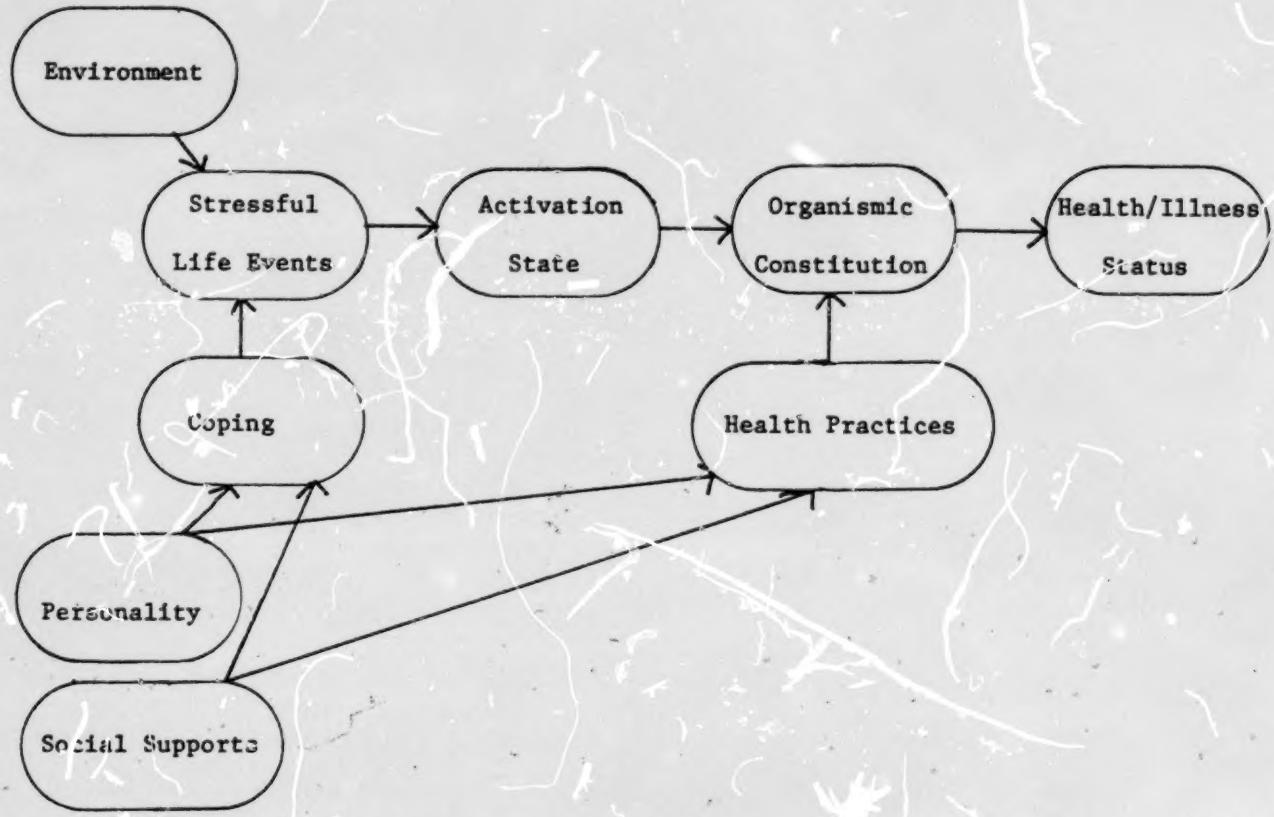

Figure One: A model for Stress-Related Illness